REMARKS/ARGUMENTS

No claim amendments have been made. The listing of claims corresponds to the pending claims and is presented for convenience.

35 U.S.C. 101 based rejections

The Examiner has maintained the 35 U.S.C. 101 based rejections of claims 22-30 even though the applicants amended claims 22-30 to include a computer readable storage medium instead of an article of manufacture. Applicants traverse the 35 U.S.C. 101 based rejections of claims 22-30.

In rejecting claims 22-30 under 35 U.S.C. 101 the Examiner has indicated that "paragraph [0060] of the Applicant's specification disclosed transmission medium including network transmission lines, wireless transmission media and signals propagating through space, radio waves and infrared signals, etc., which indicates that Applicant intends the computer readable storage medium to include transmission media and signals that are considered unpatentable subject matter under 35 U.S.C. 101." Applicants believe that the Examiner is referring to paragraph 54 (pages 12-13) of the Applicant's originally submitted specification (submitted on March 31, 2004) instead of paragraph 60. Applicants respectfully submit that Applicants have in paragraph 54 of the original submitted specification indicated the following:

"The term "article of manufacture" as used herein refers to program instructions, code and/or logic implemented in circuitry (e.g., an integrated circuit chip, Programmable Gate Array (PGA), ASIC, etc.) and/or a computer readable medium (e.g., magnetic storage medium, such as hard disk drive, floppy disk, tape), optical storage (e.g., CD-ROM, DVD-ROM, optical disk, etc.), volatile and non-volatile memory device (e.g., Electrically Erasable Programmable Read Only Memory (EEPROM), Read Only Memory (ROM), Programmable Read Only Memory (PROM), Random Access Memory (RAM), Dynamic Random Access Memory (DRAM), Static Random Access Memory (SRAM), flash, firmware, programmable logic, etc.). Code in the computer readable medium may be accessed and executed by a machine, such as, a processor. In certain embodiments, the code in which embodiments are made may further be accessible through a transmission medium or from a file server via a network. In such cases, the article of manufacture in which the code is implemented may comprise a transmission medium, such as a

network transmission line, wireless transmission media, signals propagating through space, radio waves, infrared signals, etc."

It is clear from paragraph 54 of the original specification that computer readable storage medium [refer to the language in the specification: "computer readable medium (e.g., magnetic storage medium, such as hard disk drive, floppy disk, tape)"] does not include transmission medium. The article of manufacture as per the specification is a broader term than computer readable storage medium as indicated in the following text of the specification: "The term 'article of manufacture' as used herein refers to program instructions, code and/or logic implemented in circuitry (e.g., an integrated circuit chip, Programmable Gate Array (PGA), ASIC, etc.) and/or a computer readable medium (e.g., magnetic storage medium, such as hard disk drive, floppy disk, tape), optical storage (e.g., CD-ROM, DVD-ROM, optical disk, etc.), volatile and non-volatile memory device (e.g., Electrically Erasable Programmable Read Only Memory (EEPROM), Read Only Memory (ROM), Programmable Read Only Memory (PROM), Random Access Memory (RAM), Dynamic Random Access Memory (DRAM), Static Random Access Memory (SRAM), flash, firmware, programmable logic, etc.)." As per the specification the article of manufacture can be many different items – the computer readable medium (e.g., magnetic storage medium, such as hard disk drive, floppy disk, tape) which corresponds to the computer readable storage medium of the claim requirements being one of them.

Additionally, the language of the specification that "Code in the computer readable medium may be accessed and executed by a machine, such as, a processor. In certain embodiments, the code in which embodiments are made may further be accessible through a transmission medium or from a file server via a network. In such cases, the article of manufacture in which the code is implemented may comprise a transmission medium, such as a network transmission line, wireless transmission media, signals propagating through space, radio waves, infrared signals, etc." also indicates that computer readable storage medium is different from transmission medium. The specification indicates that code in the computer readable medium may be accessed and executed by a machine, such as, a processor. The code can also be accessed by a transmission medium. Therefore, the computer readable storage medium is different from the transmission medium.

For the above reasons claims 22-30 overcome the Examiner's 35 U.S.C. 101 based rejections.

Claim rejections under 35 U.S.C. 103

The Examiner has rejected claims 1-4, 8-14, 17-26, 29-30 (the Examiner has made certain errors in indicating the claim numbers of the rejected claims in at least page 4 of the Office Action and Applicants have indicated the correct claim numbers) under 35 U.S.C. 103(a) as being unpatentable over Hayes (2003/0158906) in view of the white paper "Introduction to TCP/IP Offload Engine(TOE)" authored by Yeh (Yeh) and in view of Pinkerton (US 7,181,531).

New claims 31-34 were rejected under 35 U.S.C. 103(a) as being obvious over Hayes, Yeh, Pinkerton, and further in view of IETF draft "iSCSI" published on January 10, 2003 (iSCSI).

Applicants traverse the rejection of the claims.

Independent claims 1, 10, 19, 22

Independent claim 1 (similar reasons for patentability apply to independent claims 10, 19, 22) require:

requesting, by a network storage driver, a connection from an offload application, wherein the offload application interfaces with a first network stack implemented in an operating system and a second network stack implemented in a hardware device;

receiving the connection from the offload application, wherein the received connection is an offloaded connection and is reserved for the network storage driver; and

communicating data over the offloaded connection through the hardware device, wherein the first network stack and the second network stack do not implement an Internet Small Computer Systems Interface (iSCSI) protocol, wherein the network storage driver is an iSCSI driver that implements the iSCSI protocol for communicating with a target storage device through the hardware device, wherein the iSCSI driver comprises an iSCSI protocol layer and an iSCSI transport abstraction layer, wherein the iSCSI transport abstraction layer provides an abstracted transport interface such that the iSCSI protocol layer is not aware of any operating system and hardware transport specifics for communicating commands to the hardware device.

The Examiner has rejected the independent claims 1, 10, 19, 22 under 35 U.S.C. 103(a) as being unpatentable over Hayes, in view of Yeh and further in view of Pinkerton.

In rejecting claim 1, the Examiner has indicated that FIG. 3 and col. 9, lines 37-58 of the cited Pinkerton discloses the claim requirements that the network storage driver is an iSCSI driver, wherein the iSCSI driver comprises an iSCSI protocol layer and an iSCSI transport abstraction layer, wherein the iSCSI transport abstraction layer provides an abstracted transport interface such that the iSCSI protocol layer is not aware of any operating system and hardware transport specifics for communicating commands to the hardware device. Applicants respectfully submit that the claims (claim 1, 10, 19, 22) require an iSCSI driver comprising an iSCSI protocol layer and an iSCSI transport abstraction layer. FIG. 3 of the cited Pinkerton, and col. 9, lines 37-58 of the cited Pinkerton discusses a NDIS minidriver (reference numeral 310 of FIG. 3 of the cited Pinkerton) and a Chimney driver (reference numeral 312 of FIG. 3 of the cited Pinkerton) but does not appear to teach or suggest the claim requirements that the iSCSI driver comprises an iSCSI protocol layer and an iSCSI transport abstraction layer. Should the Examiner continue to reject the claims, the Examiner is requested to indicate which element of the cited Pinkerton corresponds to:

1) the iSCSI driver of the claim requirements;

2) the iSCSI protocol layer of the claim requirements; and

3) the iSCSI transport abstraction layer of the claim requirements.

For the above reasons claims 1, 10, 19, 22 are patentable over the cited art.

Dependent claims 2-5, 8-9, 11-14, 17-18, 20-21, 23-26, 29-34

The Examiner has also rejected pending claims 2-5, 8-9, 11-14, 17-18, 20-21, 23-26, 29-34. These pending claims depend on the pending independent claims 1, 10, 19, 22 that the applicant submits as patantable. Accordingly claims 2-5, 8-9, 11-14, 17-18, 20-21, 23-26, 29-34 provide additional grounds of patentability over the cited art.

Dependent claims 31-34

Dependent claims 31, 32, 33, 34 depend on independent claims 1, 10, 19, 22 respectively and further require:

"wherein transport interfaces included in the iSCSI transport abstraction layer are modified in response to a modification to the hardware device or the operating system, wherein no changes are made to the iSCSI protocol layer when changes are made to the iSCSI transport

abstraction layer in response to the modification to the hardware device or the operating system, and wherein the iSCSI driver further comprises a Small Computer Systems Interface (SCSI) to iSCSI translation module that interfaces with an operating system SCSI stack and translates SCSI requests into iSCSI requests and then forwards the requests to the iSCSI protocol layer."

In rejecting the claims the Examiner has indicated in page 17 of the Office Action that the "Introduction" of the cited Yeh, FIG. 3 of the cited Pinkerton and col. 9, lines 37-58 of the cited Pinkerton discloses the claim requirements [as addressed by the Examiner in the rejection of claim 1] that transport interfaces included in the iSCSI transport abstraction layer are modified in response to a modification to the hardware device or the operating system, wherein no changes are made to the iSCSI protocol layer when changes are made to the iSCSI transport abstraction layer in response to the modification to the hardware device or the operating system.

Applicants respectfully submit that the Introduction of the cited Yeh discusses a TCP/IP offload engine. Applicants also submit that FIG. 3 of the cited Pinkerton and col. 9, lines 37-58 of the cited Pinkerton discusses a NDIS minidriver (reference numeral 310 of FIG. 3 of the cited Pinkerton) and a Chimney driver (reference numeral 312 of FIG. 3 of the cited Pinkerton). The claims require the following elements:

(1) transport interfaces are included in the iSCSI transport abstraction layer that are modified in response to a modification to the hardware device or the operating system; and

(2) the iSCSI protocol layer to which no changes are made when changes are made to the iSCSI transport abstraction layer in response to the modification to the hardware device or the operating system.

While the cited Pinkerton appears to discuss a NDIS minidriver and a Chimney driver, the claims have at least the following three elements: (a) transport interfaces, (b) iSCSI abstraction layer, (c) iSCSI protocol layer, and the Examiner has failed to indicate where the cited art discloses the claim requirements of the transport interfaces, the iSCSI abstraction layer and the iSCSI protocol layer, wherein:

(1) transport interfaces are included in the iSCSI transport abstraction layer that are modified in response to a modification to the hardware device or the operating system; and

(2) the iSCSI protocol layer to which no changes are made when changes are made to the iSCSI transport abstraction layer in response to the modification to the hardware device or the operating system.

Should the Examiner continue to reject the claims the Examiner is requested to indicate which element of the cited art corresponds to the following elements of the claim requirements:

(a) transport interfaces;

(b) iSCSI abstraction layer; and

(c) iSCSI protocol layer.

For the above reasons claims 31-34 are patentable over the cited art.

Conclusion

For all the above reasons, Applicant submits that the pending claims are patentable. Should any additional fees be required beyond those paid, please charge Deposit Account No. 50-0585.

The attorney/agent of record invites the Examiner to contact him at (310) 557-2292 if the Examiner believes such contact would advance the prosecution of the case.

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